

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application. Added text is indicated by underlining, deleted text is indicated by ~~striketrough~~. Changes are identified by a change bar in the margin.

**Listing of Claims:**

1-9. (canceled)

10. (currently amended) A method of operating a storage system comprising  
a disk array accessed by one or more host computers.

wherein when ~~a~~the storage system detects that an amount free space of the  
storage system has become less than a predetermined value, a remote storage area is provided by  
performing a mount operation from the storage system on one or more disk units at a remote  
storage system in communication with said storage system so that said remote storage area  
serves as said storage area accessible by the host computers.

wherein a size and a speed of at least one of reading and writing of said remote  
storage area to be utilized are specified in a utilization demand message from said storage system  
to said remote storage system that identifies a predetermined port ID of the storage system, and

wherein said remote storage system determines if said remote storage area can be  
provided in accordance with said size and speed, and if it is possible, sends a data packet from  
the remote storage system to the storage system, said data packet identifying a remote unit ID of  
the remote storage area that is to be stored in a port management table of the storage system in  
accordance with the port ID identified in the utilization demand message and thereby mounting  
said remote storage area and providing said remote storage area having said size and said speed  
as the storage area for said storage system.

11. (currently amended) A method of operating a storage system comprising  
a disk array accessed by one or more host computers.

wherein when a ~~the~~ storage system detects that an amount of its free space has become less than a predetermined value, a remote storage area is provided by performing a mount operation from the storage system on one or more disk units at a remote storage system in communication with said storage system so that said remote storage area serves as said storage area accessible by the host computers,

wherein a utilization state of said remote storage area for said storage system is monitored in said remote storage system, and

wherein whether or not one or more spare disk units in said storage system is to be provided is decided according to said utilization state;

wherein providing spare disk units comprises sending a data packet from the remote storage system to the storage system, said data packet identifying a remote unit ID of the remote storage area that is to be stored in a port management table of the storage system in accordance with a port ID of the storage system identified in a utilization demand message from the storage system to the remote storage system and thereby mounting said remote storage area and providing said remote storage area having said size and said speed as the storage area for said storage system.

12. (currently amended) A method of operating a storage system comprising a disk array accessed by one or more host computers,

wherein when a ~~the~~ storage system detects that an amount of its free space has become less than a predetermined value, a remote storage area is provided by determining if it is possible to provide the remote storage area in accordance with a specification of the storage system and, if it is possible, then performing a mount operation from the storage system on one or more disk units at the remote storage system in communication with said storage system so that said remote storage area serves as said storage area accessible by the host computers,

wherein data stored and managed in said remote storage area is copied to the storage area of said storage system when the storage area of said storage system is enlarged;

wherein the mount operation comprises sending a data packet from the remote storage system to the storage system, said data packet identifying a remote unit ID of the remote

storage area that is to be stored in a port management table of the storage system in accordance with a port ID of the storage system identified in a utilization demand message from the storage system to the remote storage system, and thereby mounting said remote storage area and providing said remote storage area having said size and said speed as the storage area for said storage system.

13-20. (canceled)

21. (currently amended) A method of operating a storage system comprising a disk array accessed by one or more host computers.

wherein when ~~a~~the storage system detects that an amount of free space on at least one first disk unit installed in said storage system has become less than a predetermined value, a remote storage area that is provided by at least one second disk unit installed in a remote storage system in communication with said storage system is made available as said storage area by determining if it is possible to provide said remote storage area in accordance with specifications of the storage system and, if it is possible, then by performing a mounting operation from the storage system of said at least one second disk unit,

wherein said storage system stores a correspondence between:

a port ID for specifying each disk unit installed on said storage system, and  
an identifier of said first disk unit, and

wherein, when said storage system uses said remote storage area as its storage area by performing a mounting operation, said storage system stores a correspondence between:  
said port ID, and  
an identifier of said second disk unit that is provided by said remote storage system area;

wherein a size and speed of at least one of reading and writing of said remote storage area to be utilized are specified in a utilization demand message from said storage system to said remote storage system that identifies a predetermined port ID of the storage system; and

wherein the mounting operation comprises sending a data packet from the remote storage system to the storage system, said data packet identifying a remote unit ID of the remote

storage area that is to be stored in a port management table of the storage system in accordance with the port ID of the storage system and thereby mounting said remote storage area and providing said remote storage area having said size and said speed as the storage area for said storage system accessible by the host computers.

22. (currently amended) A method of operating a storage system comprising a disk array accessed by one or more host computers, the method comprising:

receiving a utilization demand message at a remote storage system, wherein the utilization demand message specifies a size and a speed of at least one of reading and writing of a remote storage area of the remote storage system and that identifies a predetermined port ID of the storage system;

determining if it is possible for the remote storage system to provide a remote storage area to the storage system in accordance with the utilization demand message specification of size and speed;

performing a mount operation from the storage system on one or more disk units at the remote storage system so that said remote mounted disk units serve as additional storage area for the storage system accessible by the host computers, in response to determining that it is possible to provide said remote storage area, and otherwise indicating that no mount operation could be performed;

wherein the mount operation comprises sending a data packet from the remote storage system to the storage system, said data packet identifying a remote unit ID of the remote storage area that is to be stored in a port management table of the storage system in accordance with the port ID of the storage system and thereby mounting said remote storage area and providing said remote storage area having said size and said speed as the storage area for said storage system.

23. (previously presented) A method of operating a storage system according to claim 22, wherein the designation command designates a port ID of the storage system, to which the remote storage area will be mounted.

24. (previously presented) A method of operating a storage system according to claim 22, further comprising:

providing a remote unit ID to the storage system, wherein the remote unit ID identifies the remote storage area of the performed mount operation.

25. (previously presented) A method of operating a storage system according to claim 22, wherein the remote unit is automatically mounted in response to detecting that an amount of free space of the storage system has become less than a predetermined value.

26. (previously presented) A method of operating a storage system according to claim 22, wherein the utilization demand message specifies a write-in command for writing data to a remote storage area of the remote storage system, the method further comprising:

writing the data to the remote storage area designated by the remote unit ID;  
indicating that the write-in command was normally completed if the write-in command was performed normally, and otherwise indicating that the write-in command was not performed normally.

27. (previously presented) A method of operating a storage system according to claim 22, wherein the utilization demand message specifies a read-out command for reading data from a remote storage area of the remote storage system, the method further comprising:

reading the data from the remote storage area designated by the remote unit ID;  
indicating that the read-out in command was normally completed if the read-out command was performed normally, and otherwise indicating that the read-out command was not performed normally.

28. (currently amended) A system comprising:

a storage system coupled to a host computer; and  
a remote storage system coupled to said storage system;  
wherein said storage system comprises:

a computer interface in communication with a the host computer,

6 a cache memory,  
7 a plurality of disk units for data storage, and  
8 a disk adapter coupled to said plurality of disk units;  
9 wherein the storage system provides a utilization demand message that is received  
10 at the remote storage system, wherein the utilization demand message specifies a size and a  
11 speed of at least one of reading and writing of a remote storage area of the remote storage system  
12 and that identifies a predetermined port ID of the storage system, the remote storage system  
13 determines if it is possible for the remote storage system to provide a remote storage area to the  
14 storage system in accordance with the utilization demand message specification of size and  
15 speed, and ~~performs a mount operation~~ is performed from the storage system on one or more  
16 disk units at the remote storage system so that said remote mounted disk units serve as additional  
17 storage area for the storage system accessible by the host computer, in response to determining  
18 that it is possible to provide said remote storage area, and otherwise indicates that no mount  
19 operation could be performed, wherein the mount operation comprises sending a data packet  
20 from the remote storage system to the storage system, said data packet identifying a remote unit  
21 ID of the remote storage area that is to be stored in a port management table of the storage  
22 system in accordance with the port ID of the storage system and thereby mounting said remote  
23 storage area and providing said remote storage area having said size and said speed as the storage  
24 area for said storage system.